

Inventors: de Rouffignac et al.
Appl. Ser. No.: 09/841,493
Atty. Dkt. No.: 5659-06500

temperature range, wherein the pyrolysis temperature range is from about 270 °C to about 400 °C

Sub E1
D2

22. (amended) The method of claim 2619, further comprising producing a mixture from the formation, wherein the produced mixture comprises a non-condensable component, wherein the non-condensable component comprises molecular hydrogen, wherein the molecular hydrogen is greater than about 10 % by volume of the non-condensable component at 25 °C and one atmosphere absolute pressure, and wherein the molecular hydrogen is less than about 80 % by volume of the non-condensable component at 25 °C and one atmosphere absolute pressure.

Sub E1
D3

40 39
5152. (amended) The method of claim 5151, wherein at least one of the heating elements comprises a pipe-in-pipe heater.

41 39
5153. (amended) The method of claim 5151, wherein at least one of the heating elements comprises a flameless distributed combustor.

D3

42 39
5154. (amended) The method of claim 5151, wherein at least one of the heating elements comprises a mineral insulated cable coupled to a support, and wherein the support is free to move within the wellbore.

43 39
5155. (amended) The method of claim 5151, wherein at least one of the heating elements comprises a mineral insulated cable suspended from a wellhead.

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5156. (amended) A method of treating a coal formation in situ, comprising:
heating a part of the formation with heating elements, wherein at least two of the heating elements are placed in open wellbores, wherein at least one end of at least one of the heating elements is free to move axially within one of the open wellbores to allow for thermal expansion of the at least one heating element, and wherein superposition of heat from at least two of the heating elements pyrolyzes at least some hydrocarbons in the part of the formation; and

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controlling the pressure of a majority of the part of the formation at or above 2 bar absolute.

~~45~~ 5157. (amended) The method of claim ~~5156~~, wherein at least one of the heating elements comprises a pipe-in-pipe heater.

~~46~~ 5158. (amended) The method of claim ~~5156~~, wherein at least one of the heating elements comprises a flameless distributed combustor.

~~47~~ 5159. (amended) The method of claim ~~5156~~, wherein at least one of the heating elements comprises a mineral insulated cable coupled to a support, and wherein the support is free to move within the wellbore.

~~48~~ 5160. (amended) The method of claim ~~5156~~, wherein at least one of the heating elements comprises a mineral insulated cable suspended from a wellhead.

Discussion

A. Pending Claims

Claims 2619, 2621-2630, 2632-2657, 5150-5160 are currently pending. Claims 2627, 2642, and 5152-5160 are amended. The claims have been amended to clarify the claims and/or to correct typographical errors.

B. Terminal Disclaimer

The Examiner requested a terminal disclaimer over co-pending application 09/841,439.

Applicant does not believe that a terminal disclaimer is needed for the present application and the